

# **Consumer Confidence Report**

January 1, 2014-December 31, 2014

Incirlik AB, Turkey

## **Introduction**

This is an annual report on the quality of drinking water delivered by Incirlik Air Base. Under the "Consumer Confidence Reporting Rule" of the Federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. This report presents information on the source of our water, its constituents and the health risks associated with any contaminants. It contains extensive technical language required by the Environmental Protection Agency (EPA), which is designed to further public understanding about public water systems and potential hazards. Because we are in a foreign country we are required to abide by the Final Governing Standards of this country. The Final Governing Standards of Turkey (FGS-T) these requirements mirror those of the U.S. Environmental Protection Agency.

## **Where does my water come from?**

There is one distinct Public Water System (PWS) at Incirlik AB serving a population of 4,000. Incirlik's water comes from four wells that are located on the base. As water travels through the ground, it dissolves naturally occurring minerals and materials, and can pick up substances resulting from the presence of animals or from human activity. Due to quality of this groundwater source before it can be used for human consumption it is treated and purified at the Water Treatment Plant (WTP) by sand filtration, mechanical filtration, chlorine gas, hydrofluorocilic acid and Reverse Osmosis (RO) softening (RO-A and RO-B). Water is then pumped to ground storage tanks. From ground storage tanks, water is then pumped to the 'A' and 'D' Street elevated storage tanks. Water is supplied by gravity into the main distribution. Water storage capacity on Incirlik is a total of 1,020,000 gallons. In order to ensure that Incirlik's tap water is safe to drink, the FGS-T prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

## **Why are there contaminants in my drinking water?**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 001-800-426-4791.

## **Contaminants that may be present in source water include:**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-

products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

#### **Who needs to take special precautions?**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline 001-800-426-4791.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

#### **Information on Fluoride**

Fluoride at low levels in drinking water is beneficial to proper development of teeth and the prevention of cavities, but in elevated levels, can cause dental problems in children under the age of nine. Levels above 2 ppm can cause dental fluorosis (mottling) which may include brown staining and pitting of the permanent teeth. This problem only occurs in developing teeth, before they erupt from the gums. Our base drinking water has consistently maintained fluoride at levels below 2 ppm.

#### **Monitoring of Your Drinking Water**

At Incirlik, Bioenvironmental Engineering (BE) monitors the contaminant groups in the following table using EPA-certified laboratories and approved methods. Column 2 of the table specifies the monitoring frequency for these contaminant groups.

Analyte/Contaminant Group	Monitoring Frequency
Microbiological contaminants	Monthly
Chlorine	Monthly
Fluoride	Monthly and every 3 years at source (more frequently by WTP)
Nitrate & Nitrite	Quarterly
Total Nitrate & Nitrite	Quarterly
Lead and Copper	Sample every 3 years
Total Trihalomethane (TTHM)	Quarterly
Haloacetic Acid (HAA5)	Quarterly

Inorganic Compounds (IOCs)	1 Sample every 3 years
Sodium	1 Sample every 3 years
Analyte/Contaminant Group	Monitoring Frequency
Synthetic Organic Compounds (SOCs)	Quarterly
Volatile Organic Contaminants (VOCs)	Once a year
Pesticides/PCBs	4 Quarterly samples every 3 years
Radiochemicals (Gross Alpha Particle Activity)	4 Quarterly samples every 4 years
Alpha emitters	4 Quarterly samples every 4 years
Beta/photon emitters	4 Quarterly samples every 4 years
Asbestos	Once every 9 years

#### **Definitions of Key Terms**

To gain a better understanding of the report content, we have provided definitions of several key terms:  
**Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water.

**mg/L** - milligrams per liter; a unit of measure similar to part per million (ppm).

**Picocurie per liter (pCi/L)** - Measure of radioactivity in water.

**Mrem** - Millirem: measure of radiation absorbed by the body.

**L** – Liters.

**Range:** The range of the highest and lowest analytical values of a reported contaminant. For example, the range of reported analytical detections for an unregulated contaminant may be 10.1 ppm (lowest value) to 13.4 ppm (highest value). EPA requires this range to be reported.

#### **Water Quality Table**

The water quality table lists all drinking water contaminants detected after treatment during the calendar year 2013. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. FGS-T requires us to monitor less than once per year for certain contaminants because the concentrations of these contaminants does change frequently.

Contaminants	MCL	Range Low-High	Violation	Typical Source
Chlorine	4 mg/L	0.01 to 1.2 mg/L	No	Water additive to control microbes
Fluoride	4 mg/L	0.67 to 1.04 mg/L	No	Erosion of natural deposits; Water additive which promotes strong teeth
Total Coliform Bacteria	0	0	No	Naturally present in the environment

Contaminants	MCL	Range Low-High	Violation	Typical Source
Nitrate	10 mg/L	7.6 to 9.9 mg/L	No	Fertilizer use; Leaching from septic tanks and sewage; and Erosion
Total Nitrate/ Nitrite	10 mg/L	7.1to 9.6 mg/L	No	Fertilizer use; Leaching from septic tanks and sewage; and Erosion
Halocetic Acid (HAA5)	0.06 mg/L	0.001 to 0.002 mg/L	No	Byproduct of drinking water disinfection
Total Trihalometh- anes (TTHM's)	0.08 mg/L	0.0003 to 0.007 mg/L	No	Byproduct of drinking water disinfection
Barium (IOC)	2 mg/L	<0.005 mg/L	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nickel	.01 mg/L	<.004 mg/L	No	Naturally present in the environment
Sodium	N/A	3 mg/L	No	Naturally present in the environment
Beryllium	.004 mg/L	< .0002 mg/L	No	Discharge from metal refineries and coal burning facilities; discharge from electrical, aerospace, and defense industries
Arsenic	.01 mg/L	< .003 mg/L	No	Erosion of natural deposits; runoff from orchards
Selenium	.05 mg/L	< .003 mg/L	No	Discharge from petroleum and metal refineries; erosion of natural deposits
Mercury	.002 mg/L	<.0001 mg/L	No	Erosion of natural deposits; runoff from cropland
Cadmium	.005 mg/L	<. 0002 mg/L	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries
Antimony	.006 mg/L	<. 0002 mg/L	No	Discharge form petroleum refineries, fire retardants, ceramics, solder
Thallium	.002 mg/L	<. 0002 mg/L	No	Leaching from ore-processing sites;

				discharge from electronics, glass and drug factories
Chromium	.1 mg/L	<.004 mg/L	No	Discharge from steel and pulp mills; erosion of natural deposits
Benzene	.0005 mg/L	<.0005 mg/L	No	Discharge from factories; leaching from gas storage tanks and landfills
1,1-Dichloroethane	0.002 mg/L	<.0005 mg/L	No	Discharge from industrial chemical factories
Carbon tetrachloride	0.005 mg/L	<.0005 mg/L	No	Discharge from industrial chemical factories
cis-1,2-Dichloroethene	0.07 mg/L	<.0005 mg/L	No	Discharge from industrial chemical factories
trans-1,2-Dichloroethene	N/A	<.0005 mg/L	No	Discharge from industrial chemical factories
1,1,1-Trichloroethane	0.2 mg/L	<.0005 mg/L	No	Discharge from industrial chemical factories
Ethylbenzene	0.7 mg/L	<.0005 mg/L	No	Discharge from petroleum refineries
Styrene	0.1 mg/L	<.0005 mg/L	no	Discharge from rubber and plastic factories; leaching from landfills
Toluene	1 mg/L	<.0005 mg/L	No	Discharge from petroleum factories
Vinyl chloride	0.002 mg/L	<.0005 mg/L	No	Leaching from PVC piping
Xylene	10 mg/L	<.0005 mg/L	No	Discharge from petroleum factories

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